

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Original) A system for treating a target site in a tubular organ, the system consisting essentially of:

an elongate delivery guide member having a proximal end and a distal end, the delivery guide member configured to direct at least one implant having an exterior and interior surface to an anatomical treatment site by manipulation by a user, the at least one implant having a delivery diameter prior to release of the at least one implant and located proximally of the distal end of the delivery guide member prior to release, and at least one releasable joint configured to maintain at least a section of the at least one implant at the delivery diameter until release of the at least one releasable joint, and

a balloon catheter,

wherein the delivery guide member is adapted for receipt within a lumen of the balloon catheter.

2. (Original) A system consisting essentially of claim 1 and a guidewire, wherein the guidewire is adapted for receipt within a lumen of the balloon catheter.

3. (Original) A system consisting essentially of the system of claim 1 and an embolic filter, wherein the embolic filter is attached to the proximal end of the delivery guide member.

4. (Original) The system of claim 1, wherein the delivery guide member is positioned within the balloon catheter lumen.

5. (Original) An implant delivery system comprising:

an elongate delivery guide member having a proximal end and a distal end, the delivery guide member configured to direct at least one implant having an exterior and interior surface to an anatomical site by manipulation of the delivery guide member by a user,

the at least one implant having a delivery diameter prior to release of the at least one implant and located proximally of the distal end of the delivery guide member prior to release, and

at least one releasable joint configured to maintain at least a section of the at least one implant at the delivery diameter until release of the at least one releasable joint,

wherein the delivery guide member has a diameter distally and proximally of the at least one implant that is substantially equal to the at least one implant delivery diameter, whereby a substantially atraumatic implant delivery system is provided.

6. (Original) An implant delivery system comprising:

an elongate delivery guide member having a proximal end and a distal end, the delivery guide member configured to direct at least one implant having an exterior and interior surface to an anatomical treatment site by manipulation by a user,

the at least one implant having a delivery diameter prior to release of the at least one implant and located proximally of the distal end of the delivery guide member prior to release, and

a plurality of releasable joints, each joint configured to maintain a section of the at least one implant at the delivery diameter until release of the releasable joints,

wherein the system is adapted for sequential release of the releasable joints.

7. (Original) A system for treating a target site in a tubular organ comprising:

the implant delivery system of claims 6 or 7, and
a balloon catheter.

8. (Original) The system claim 1, 5 or 6, wherein the delivery guide member is closed at its distal end.

9. (Original) The system of claim 8, wherein the distal end is closed by an atraumatic tip.

10. (Original) The system claim 1, 5 or 6, wherein the delivery guide member diameter distally and proximally of the at least one implant is about 0.010 inches to about 0.020 inches, whereby a low-profile delivery system is provided.

11. (Original) The system claim 1, 5 or 6, wherein the delivery guide member has no passageway from its proximal to its distal end.

12. (Original) The system claim 1, 5 or 6, further comprising an actuator for releasing the at least one releasable joint, wherein the delivery guide member has only a single passageway from its proximal to its distal end, that passageway contains the actuator, and wherein that actuator does not extend beyond the distal end of the delivery guide member.

13. (Original) The system of claim 12, wherein the actuator for releasing the at least one releasable joint is affixed to the distal end of the delivery guide member.

14. (Original) The system claim 1, 5 or 6, wherein the delivery guide member comprises a distal guide section and a proximal guide section and a gap between the distal guide section and the proximal guide section and the at least one implant is located between the distal guide section and the proximal guide section.

15. (Original) The system claim 1, 5 or 6, wherein the delivery guide member is noninflatable.

16. (Original) The system of claim 1, 5 or 6, wherein the delivery guide member is tubular in form, having a lumen therein.

17. (Original) The system of claim 16, further comprising an actuator slidably located at least partially within the delivery guide member lumen and configured to release at least one releasable joint upon axial movement within the delivery guide member.

18. (Original) The system of claim 16, further comprising an actuator slidably located at least partially within the delivery guide member lumen and configured to release at least one releasable joint upon rotational movement within the delivery guide member.

19. (Original) The system of claim 16, wherein at least one releasable joint is configured to release upon application of fluid pressure in the delivery guide member lumen and further comprising a fluid director slidably located at least partially within the delivery guide member lumen and configured to direct fluid to and to release that selected at least one releasable joint.

20. (Original) The system of claim 16, wherein at least one releasable joint is configured to release upon application of a suitable DC current to the at least one releasable joint and further comprising an electrical conductor located at least partially within the delivery guide member lumen to supply the suitable DC current to and to thereby release at least one releasable joint.

21. (Original) The system of claim 20, wherein the at least one releasable joint and electrical conductors are configured to simultaneously release more than one releasable joint.

22. (Original) The system of claim 1, 5 or 6, wherein the implant is a stent.

23. (Original) The system of claim 1, 5 or 6, wherein the implant is an occlusive coil.

24. (Original) The system of claim 1, 5 or 6, wherein the implant further comprises a therapeutic agent.

25. (Original) The system of claim 1, 5 or 6, wherein the delivery guide member further comprises a radiopaque marker.

26. (Original) The system of claim 1, 5 or 6, having flexibility and remote directability, such that a user may direct the distal end of the guide member into and introduce the at least one implant into a coronary artery solely by manipulation of the delivery guide member from its proximal end.

27. (Original) The system of claim 1, 5 or 6, wherein the system is guidewireless.

28. (Original) An implant delivery system comprising:
a self-expanding stent;
a guidewire having a proximal end and distal end, the guidewire including a reduced diameter distal section, and an atraumatic distal tip; and
a sheath holding the stent in a collapsed configuration over the reduced diameter section.

29. (Original) An implant delivery system consisting essentially of:
a self-expanding stent;
a guidewire having a proximal end and a distal end, the guidewire including a reduced diameter distal section, and an atraumatic distal tip; and

a sheath holding the stent in a collapsed configuration over the reduced diameter section.

30. (Original) The system of claim 28, wherein the sheath comprises a balloon catheter.

31. (Original) A system for treating a target site in a tubular organ comprising:

the implant delivery system of claims 28, 29 or 30, and
a handle for retracting the sheath.

32. (Original) A method of retaining an implant, the method comprising:
providing a radially-expandable implant having two ends,
gripping the ends, and
pulling and twisting the ends to maintain the implant in a collapsed configuration until released.

33. (Original) The method of claim 32, wherein the gripping is with inactive members.

34. (Original) The method of claim 32, wherein the implant is a stent.

35. (Original) The method of claim 32, further comprising setting the implant over a core wire.

36. (New) A method of treating a vessel in a human body comprising:
passing a balloon catheter, which has a balloon, over an elongate stent carrying member, which has a stent attached thereto and serves as a guidewire for the balloon catheter, to

a treatment site in a vessel in a human body such that said balloon is aligned with said treatment site; and

expanding said balloon while said balloon catheter is over said elongate stent carrying member with said balloon aligned with the treatment site to dilate the treatment site prior to deployment of said stent.

37. (New) The method of claim 36 wherein said balloon is at least partially deflated and said balloon catheter is moved to allow deployment of said stent from said elongate stent carrying member at the treatment site.

38. (New) The method of claim 37 wherein said balloon is at least partially deflated and said balloon catheter is moved to allow deployment of said stent from said elongate stent carrying member at the treatment site without removing said balloon catheter from said elongate stent carrying member.

39. (New) The method of claim 36 wherein said balloon catheter has a distal end and said balloon catheter is moved so that said distal end clears the treatment site.

40. (New) The method of any one of claims 37, 38, and 39 wherein said stent is deployed at the treatment site and assumes an at least partially expanded shape and said balloon positioned in the deployed stent and expanded to expand said stent without removing said balloon catheter from said elongate stent carrying member.

41. (New) The method of claim 36 wherein said stent is a self-expanding stent.

42. (New) An angioplasty method comprising:
positioning an elongate stent carrying member with a self-expanding stent directly attached thereto at a location in a vessel, which has a lesion;

passing a balloon catheter, which has a balloon, over said elongate stent carrying member wherein said elongate stent carrying member serves as a guidewire for said balloon catheter;

aligning said balloon of said balloon catheter with the lesion; and
expanding said balloon in performing the angioplasty.

43. (New) The method of claim 42 wherein said balloon is expanded at the lesion in performing the angioplasty without removing said balloon catheter from said elongate stent carrying member.

44. (New) The method of claim 43 wherein after said balloon is expanded, it is at least partially deflated and moved away from the lesion after which said stent is deployed from said elongate stent carrying member at the lesion where said stent assumes an at least partially expanded shape.

45. (New) The method of claim 44 wherein said balloon catheter is repositioned so that said balloon is in the deployed stent after which said balloon is expanded to further expand the stent.

46. (New) A method for treating a lesion in a human body comprising:
positioning an elongate stent carrying member, which has a self-expanding stent attached thereto, at a location in a vessel with the stent near a lesion;
passing a balloon catheter with an expandable balloon over said elongate stent carrying member, which serves as a guidewire for said balloon catheter, to the lesion and dilating the lesion with said balloon, which surrounds the elongate stent carrying member;
moving said balloon catheter after at least partial deflation thereof to allow deployment of said self-expanding stent at the lesion, while maintaining said balloon catheter on said elongate stent carrying member; and

deploying said self-expanding stent from said elongate stent carrying member at the dilated lesion wherein the stent assumes an at least partially expanded shape.

47. (New) The method of claim 46 further comprising moving said balloon catheter over said elongate stent carrying member after deployment of said stent and positioning said balloon catheter balloon in the deployed stent and expanding the balloon catheter balloon and deployed stent.